15

## What is claimed is:

1. A paste for filling a throughhole, which comprises: an epoxy resin; a curing agent; and a metal filler, wherein the metal filler is a powder comprising a base metal, and the curing agent is an imidazole compound represented by the following formula (1):

$$\begin{array}{c|c}
H_{2} & OH \\
\hline
N & R_{1}
\end{array}$$
(1)

wherein  $R_1$  represents a hydrogen atom, an alkyl group having 1 to 10 carbon atoms, a hydroxyalkyl group having 1 to 10 carbon atoms or an alkyloxy group having 1 to 10 carbon atoms.

- The paste for filling a throughhole according to claim
   which further comprises an inorganic filler.
- 3. The paste for filling a throughhole according to claim 1 or 2, which further comprises an ultrafine inorganic filler.
- The paste for filling a throughhole according to claim
   3, wherein the ultrafine inorganic filler has a specific surface area by BET method of 40 to 400 m²/g.

- 5. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler has a specific surface area by BET method of 60 to  $100 \text{ m}^2/\text{g}$ .
- 5 6. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler has a primary particle size of 5 to 50 nm.
- The paste for filling a throughhole according to claim
   3, wherein the ultrafine inorganic filler has a primary particle
   size of 10 to 20 nm.
  - 8. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler has an apparent specific gravity of 30 to 200 g/l.
  - 9. The paste for filling a throughhole according to claim 3, wherein a 4% dispersion of the ultrafine inorganic filler in 1:1 solution of water and methanol shows a pH value of 4.5 to 6.5.
    - 10. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler contains an organic ingredient in an amount of 3 to 5% by weight in terms of carbon.

20

10

15

- 11. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler has a water content of 0.05 to 0.15% by mass.
- 12. The paste for filling a throughhole according to claim 3, wherein the ultrafine inorganic filler comprises at least one inorganic ingredient including a major inorganic ingredient, and the ratio of the major inorganic ingredient is 99.5 mass% or more based on the total of the at least one inorganic ingredient.
- 13. Aprinted wiring board comprising: a substrate having a conductor layer; and a throughhole penetrating through the substrate,

wherein the throughhole is filled with a paste to be subjected to curing; the paste comprises an epoxy resin, a curing agent and a metal filler; the metal filler is a powder comprises a base metal; and the curing agent is an imidazolic compound represented by the following formula (1):

$$\begin{array}{c|c}
H_2 \\
\hline
N \\
R_1
\end{array}$$
(1)

20

wherein  $R_1$  represents a hydrogen atom, an alkyl group containing

المسال السيال المسال المسال السيال السيال السيال بيناء والمسال بيناء والمسال والمسال والمسال والمسال السيال المسال السيال المسال السيال المسال المسا

5

10

20

1 to 10 carbon atoms, a hydroxyalkyl group containing 1 to 10 carbon atoms or an alkyloxy group containing 1 to 10 carbon atoms.

- 14. The printed wiring board according to claim 13, wherein the paste further comprises an inorganic filler.
  - 15. The printed wiring board according to claim 13, wherein the paste further comprises an ultrafine inorganic filler.
  - 16. The printed wiring board according to claim 13, wherein at least part of the surface of the conductor layer has been subjected to a treatment of imparting hydrophobicity so that the treated surface part has a contact angle against water of 90 degrees or higher.
  - 17. The printed wiring board according to claim 13, wherein at least part of the conductor layer has been subjected to a roughing treatment so that the treated surface part has a roughness: Rz of 0.3 to 20 µm.
- 18. The printed wiring board according to claim 13, wherein the substrate comprises a core substrate having on at least one side thereof a build-up layer formed by alternately

laminating an insulating layer and a conductor layer, and the throughhole penetrates through both the core substrate and the build-up layer.

- 19. A multi-layer printed wiring board, which comprises a printed wiring board according to claim 13, and a build-up layer formed by alternately laminating an insulating layer and a conductor layer.
  - 20. The multi-layer printed wiring board according to claim 19, wherein the multi-layer wiring board is a PGA type wiring board.